ASSETT: A Modern Success Story, Built on SBIR

By Julie Scuderi

When VTG, an industry-leading provider of force modernization and digital transformation solutions, acquired ASSETT in 2021, it reaffirmed the immense potential that SBIR can offer small businesses. After all, going from a $10 million company to part of a $250 million company is the sort of success that most small companies dream about. The appeal of Virginia-based ASSET (short for Advanced Systems/Supportability Engineering Technologies & Tools) dates back decades, as the company began to win Small Business Innovation Research (SBIR) contracts from the Navy by highlighting its forward-thinking solutions for the warfighter.

"Our entire business model was based off SBIR," recalls James Shannon, ASSETT's executive vice president for government relations. "The government would ask for an innovative solution to get something off the ground, and our goal was always to transition the R&D work to something more substantial. We've had great success with underwater systems, and a strong reputation with the Navy, and that translated into successful Phase III contracts and, eventually, the acquisition from VTG."

Founded in 2001, ASSETT develops artificial intelligence (AI) and machine learning (ML) applications for undersea and unmanned systems and is a longstanding industry leader in submarine SONAR acoustics and signal processing. In its mission-critical work to support defense modernization, the company has also developed and fielded a prototype integrated control system for the dry combat submersible test bed vehicle and a battery management system for lithium-ion

Photo courtesy of VTG

In 2021, VTG acquired ASSETT with its rich history of SBIR and supporting the U.S. Navy. Moving forward, VTG is focused on transforming the nation's sea power by delivering next-generation warfighting capabilities to confront new threats.

powered platforms.

ASSETT's most recent SBIR-funded technology saw its way through the Department of Navy SBIR/STTR Transition Program (Navy STP), in a project for NAVSEA titled Affordable Scalable Acoustic Panel Arrays (contract N00024-16-C-4534). Cost-effective acoustic sensor array and process improvements, along with improved sonar target detection and localization, provide a strategic acoustic advantage, enabling the U.S. Navy to project power from the sea. ASSETT's Acoustic Array Assessment Tool (A4T) employs reverse far-field processing to provide the ability to accurately simulate the impacts of a real ocean environment on candidate array designs. A4T allows the Navy to evaluate performance of an array before field test and evaluation, saving significant amounts of time and money. The value to the warfighter lies in the ability to recognize problems sooner, and the reduced time and money it costs to test at sea.

"The real benefit of Navy STP is the ability to get out in front of your market and draw attention to

your company," says Shannon, who previously served as deputy assistant secretary of the Navy for International Programs as well as deputy commander of the Naval Sea Systems Command. "It's very hard for a small business to do that. We had great relationships with Navy program offices, but not a wide ground. STP really gave the company greater visibility to a wider audience."

Prior to the company's time in Navy STP, ASSETT also found success to the tune of $59 million in Phase III contracts with NAVSEA for its Combat System of the Future (CSoF). The project was based on the premise that U.S. Navy shipboard electronics experts need machine autonomy and eventually artificial intelligence technology to improve effectiveness and reduce personnel requirements of surface ship and submarine combat systems.

U.S. Navy Photo

ASSETT has worked with NAVSEA on various Phase III SBIR contracts related to its Combat System of the Future (CSoF). The project upgraded U.S. Navy shipboard electronics with machine autonomy and artificial intelligence technology to improve effectiveness and reduce personnel requirements of ship and sub combat systems.

For this Phase III effort, which began in 2010, ASSETT developed an improved CSoF that incorporates autonomous and remote vehicle command and control for Navy submarines, surface ships, and aircraft. These improvements aid Navy submarines in responding to new and emerging threats and use evolving technology for enhancements to Seal Delivery Vehicle (SDV) control displays; integrated bridge technology; command and control; and decision aids.

While ASSETT was hard at work delivering solutions to the U.S. Navy, fellow Virginia-based VTG took notice and began talks to acquire the small business. VTG has a rich 150-year legacy of combining innovative technologies, deep domain knowledge, and advanced engineering and technical expertise with the agility needed to meet its defense and national security customers' most challenging mission requirements. The company provides full life-cycle engineering and sustainment for aerospace and defense platforms,

C5ISR systems, and critical infrastructure across warfighting domains.

As a part of the company's growth plan to enter new markets such as Navy undersea programs, it set its sights on ASSETT, which was already a demonstrated leader in that area. In August 2021, the acquisition was finalized for an undisclosed amount. ASSETT remains a business area inside of VTG, and continues to provide systems and cybersecurity engineering, software development and data science, delivering on its deep expertise in model-based systems engineering, DevSecOps, AI/ML, and human-machine teaming.

"ASSETT and VTG share similar cultures and strong core values, and I'm confident that this partnership will enable us to realize our vision of continuing to develop next generation solutions for our customers," says Shannon. "As a result of this acquisition, ASSETT employees have begun to enjoy expanded growth opportunities and our combined clients now have access to a wider array of expertise, tools, and technologies to help them achieve their goals."

While the company has always been a stronghold in the undersea domain, ASSETT is also becoming a leader in digital warfare as it relates to the growing demand for AI, ML and cyber defense. Although its previous work focused on manned systems, the technology is fully translatable to unmanned capabilities. Looking ahead, ASSETT is excited to pull from its successful history with creating innovative solutions for the warfighter, while leveraging the power of VTG to reach new end users and develop even more solutions for the U.S. Navy.